

Task Force Environmental Cleanup

By Major Brian Lynch

The 101st Airborne Division (Air Assault) Chemical Section from Fort Campbell, Kentucky, performed the first chemical hazard mitigation and terrain decontamination of Operation Iraqi Freedom. The project required the alleviation of more than 11,000 gallons of assorted chemicals that were deliberately poured on the ground and the streets of a neighborhood in Mosul, Iraq. Timely action was required to reduce the health risk because civilians and military personnel were living and working in the area. At the time, the Chemical Section's technical training and expertise in this area was limited, but the hazard had to be reduced immediately.

Before the cleanup, coalition forces had liberated southern Iraq and Baghdad, and the 3d Infantry Division had relieved the 101st, which had occupied the area for nearly two weeks. As the 101st finalized the routing information protocol, it prepared to jump its main command post north to conduct combat operations in Mosul. Two days before, the 101st's jump command post (a small structured section of the assault command post) and the 2d Brigade Combat Team (BCT) air-assaulted into the Mosul airport. In a ground assault convoy, the remaining portion of the assault command post linked up with the jump command post, established communications, and assumed command and control of the 101st, allowing the main command post to break down and move forward.

At approximately 0600 on 25 April 2003, the 2d BCT reported that it found heavy looting at the agricultural storage facility in central Mosul and heard that the populace might have been exposed to chemicals. Iraqi civilians in the area were complaining about an irritating smell and their burning eyes and skin. The 2d BCT secured the area and reported the incident to the Chemical Section.

The source of the hazard was a series of warehouses that once contained more than 230 barrels of pesticides, acids, herbicides, and organic phosphates. The looters stole 55-gallon barrels to use for benzene (gasoline) storage and had no need for the chemicals inside. To make the barrels lighter and easier to move, the looters opened them and dumped their contents onto the ground inside the facility and the streets of the surrounding neighborhoods. Some of the looters simply opened the barrels and rolled them down the streets, splashing the contents out onto the pavement.

When the initial site survey team from the Chemical Section arrived, it saw several children vomiting and found many dead animals, and more than 20 pigeons. To make matters worse, the affected civilians in the immediate area refused to leave their homes because they feared that their property would be looted. Based on these indicators, the Chemical Section personnel determined that they

needed to mitigate the vapor and contact hazards quickly, so they developed and organized Task Force Environmental Cleanup. The task force included engineers, public affairs and psychological operations personnel, interpreters, medics, and the 2d Platoon of the 63d Chemical Company (Smoke/Decontamination).

The team drew a site layout, and the deputy division chemical officer briefed the task force. The task force was to move along a semipermissive route and set up a secure staging area within 500 meters of the agricultural facility. Once the staging area was established, a smaller security element was to move forward to clear and secure the buildings within the facility. A decontamination point—between the staging area and the entrance to the agricultural facility—was designated. After the facility was cleared and secured, the 2d Platoon was to move forward and conduct a chemical reconnaissance (under the control of the Chemical Section). The 2d Platoon was to determine what key areas within the facility required mitigation or decontamination and identify the engineer asset requirements. When



The looted agricultural facility in Mosul, Iraq, where pesticides, herbicides, and other chemicals were dumped

completed, the team was to clear the site and return the next day for an assessment.

Upon arrival at the staging area, the security element established a perimeter, went to mission-oriented protective posture (MOPP) 4, and began to clear and secure buildings systematically. After the site was secured, 2d Platoon conducted a nuclear, biological, and chemical (NBC) reconnaissance, and the Improved Chemical Agent Monitor (ICAM) showed four bars positive for G-series nerve agent at 30 meters downwind of the warehouses. We knew this was a false positive because we saw people walking in the chemicals earlier that day. The M256 Chemical Detection Kit also displayed positive results, verifying that an organophosphate vapor hazard was also present. It was estimated that the looters dumped more than 200 of the 55-gallon barrels (11,000 gallons) directly into the storage yard.

Although a large portion of the 230 barrels had been removed, the Preventive Medicine Section of the 801st Main Support Battalion, Fort Campbell, Kentucky, recorded the labels of the remaining barrels and identified their solutions. The barrels contained herbicides, pesticides, and acids. EasyDECON™200 foam was brought forward in an attempt to neutralize the pesticides. Soldiers were required to go to MOPP 4 before entering the hazard area and were checked for contamination with the ICAM upon exiting. Contaminated suits, boots, and gloves were removed and transported to a location outside the city, where they were destroyed.

Under the direction of the Chemical Section, the 2d Platoon decontaminated the entire area using more than sixty 5-gallon containers of EasyDECON 200 foam, which was applied using the M17 Lightweight Decontamination System (known as the M17). The siphon hose attachment of the M17 was used to draw solution directly from the buckets. The solution was also applied to the floors and interior walls of two storage buildings that contained standing pools of raw liquid chemicals. The 326th Engineer Battalion (Combat) (Air Assault), Fort Campbell, Kentucky; and the 37th Engineer Battalion (Combat) (Airborne), Fort Bragg, North Carolina, brought in more than 14 dump trucks of dirt—an estimated 120 tons—to cap the sites. During the operation, the trucks were secured at the staging area several blocks away and called forward, one at a time, to off-load. This method minimized the soldiers' time in MOPP 4, reduced their exposure time, and limited site congestion.



The agricultural warehouse, decontaminated and secured

Actions on-site took approximately six hours. The operation was completed at night, when the temperature was in the high 80s. Finally, the gates of the agricultural storage facility were closed, and two dump trucks of dirt were placed at the front of the entrance to deter access to the site. This terrain decontamination operation was the first (and possibly the only) terrain decontamination done during the Operation Iraqi Freedom combat operations.

The next day, the task force revisited the site, conducted a follow-up survey, and inspected the dirt seal. No vapor hazard was detected. The EasyDECON 200 foam that was applied to the ground and the inside of the two storage buildings appeared to be effective in drying and neutralizing the chemical mix. The storage building floors, which were once covered in pools of chemicals, were dry. The preventive medicine staff stated that the immediate threat was gone and conducted interviews with the local civilians. The civilians appreciated the quick response, and we gained their respect for our efforts. The Chemical Section exhausted its organic capabilities but eliminated the immediate threat and recommended to V Corps that more assets and actions were required to fully alleviate the conditions at this toxic site, including the removal and disposal of contaminated soil.

The 926th Engineer Battalion from Montgomery, Alabama, is currently assigned to the 101st and is evaluating the site for additional remediation.